



PRODUCT DATA SHEET

ZL-67 Zyglo Water Washable Penetrant

Effective March 6, 1997

Supercedes October 16, 1995

General Description

ZL-67 is a biodegradable, fluorescent, high sensitivity, water washable penetrant. ZL-67 is typically used on critical applications including investment castings, jet engine components, and highly machined surfaces to find cracks, seams and porosity. ZL-67 exhibits controlled washability over a wide temperature range and variable dwell time.

ZL-67 fluoresces a greenish-yellow color under ultraviolet radiation. Use blacklight sources with peak wavelength of 365 nanometers such as MAGNAFLUX ZB-100.

Composition

ZL-67 contains surface active agents, dibasic esters, and fluorescent dyes.

Typical Properties (Not a Specification)

Viscosity @ 100°F:	23.4 cs
Flash Point:	Greater than 200°F (93.3°C) (P.M.C.C.)
Density:	8.3 lbs./gal. (0.99 g/cc)
Water Tolerance:	Greater than 10%
Sulfur:	Less than 1000 ppm
Chlorine:	Less than 1000 ppm

Safety

1. ZL-67 is intended for industrial use by qualified personnel only.
2. Do not smoke or eat while using ZL-67. Wash hands thoroughly after use. To protect hands from staining and drying out, protective hand wear is recommended.
3. Store ZL-67 in closed containers away from open flame or heat.
4. Material Safety Data Sheet available upon request.

Method of Application

Warning:

Penetrants attack and even dissolve many kinds of plastic pipe. Polyvinyl chloride (PVC) pipe is especially vulnerable, and can crumble after a few days of exposure. Even diluted penetrant rinsings attack it rapidly. ABS plastic pipe is nearly as sensitive. When installing plumbing to handle penetrant rinsings, use metal pipe.

Test parts must be clean, free of all oil, grease, or other foreign contaminating substances. Make sure parts are dry before penetrant is applied. ZL-67 can be applied by immersion dip, brush and flow-on, conventional and electrostatic spray. Check area to be inspected under black light to assure complete penetrant coverage.

Penetration Time and Temperature

The generally accepted minimum penetration time is 2 to 5 minutes. Some specifications may require longer dwell times of 10-30 minutes. Use ZL-67 between 50°F to 125°F (10°C-51.6°C) ambient or part temperature.

Penetrant Removal

ZL-67 is generally removed by water spray. If immersion rinse is employed, final touch-up with fresh water is required.

Developer Application

Zygro developers should be used to maximize the sensitivity of ZL-67. Aqueous developers are applied prior to drying while dry powder and nonaqueous developers are applied after drying (140°F/60°C).

NOTE: Parts should not remain in aqueous developers for any length of time, as the penetrant sensitivity could be impaired.

Recommended developers for use with ZL-67 are:

ZP-4B ZP-9F SKD-S2 ZP-5B

Specification Compliance

MIL-I-25135 (Classified as Type I, Method A, Level 3)
MIL-STD-271 ASME B & PV Code, Sec. V
MIL-STD-2132 AMS-3156
ASTM E165 AECL
ASTM E 1417 AMS-2647

Coverage

1 gallon approximately 1000 square feet

Packaging 1 gallon can 20 gallon drum
 5 gallon pail 55 gallon drum